o. 2

LIBRARY
FISH & WILDLIFE SERVICE
PACIFIC OCEANIC FISHERY
INVESTIGATIONS

STANFORD
ICHTHYOLOGICAL BULLETIN

Published by the
NATURAL HISTORY MUSEUM
Stanford University, California

Volume 1 July 20, 1938 Number 2

TWO NEW GOBIID FISHES OF THE GENUS *GOBIOSOMA* FROM LOWER CALIFORNIA[1]

By Isaac Ginsburg

The following two new species were collected by Mr. Vernon E. Brook and kindly submitted to me for study. The diagnoses are written in the style of my recent revision of the genus (Bull. Bingham Oceanographic Coll., vol. 4, art. 5, 1933). Only the essential characters distinguishing the species are stated. Characters common to all the species are omitted, and the reader is referred to the paper cited for an account of such characters.

Gobiosoma puncticulatum, new species

Diagnosis. Two very small scales on caudal, at its base, one near upper margin, one near lower, weakly ctenoid. Teeth in outer row of both jaws enlarged, spaced. Tongue entire. Mental frenum not bilobed. Mouth subinferior, anteriorly lower jaw somewhat shorter than upper. Anterior dorsal spine not filamentous in female, shorter than second (males not available). D. 7 - 12, A. 11. Ventral falling considerably short of anus in female. No barbule, or enlarged, pimple-like papilla in front of eye, under anterior nostril.

Ground color grayish; body, except ventral aspect of belly, covered all over with very small, intensely dark spots, rather evenly but not very thickly distributed (in one specimen a median, longitudinal row of these spots somewhat more prominent than others); under higher magnification tiny dots appear into view, interspersed between the small spots; on head, base of pectoral and ventral aspect of belly the tiny dots only present, somewhat more densely distributed on side of head; body with a dark, rather narrow, longitudinal band close to mid-back, fading out a little before end of second dorsal; a similar, somewhat fainter, parallel band not far below, not extending as far back as upper band, continued backward as a row of the small spots, slightly more prominent than others, continued forward to eye as a solid band; upper band dipping gradually downward in front of first dorsal to become confluent with lower one; another still fainter band on head, below second band, at oculo-scapular sulcus; a band on midback of snout, continued backward to nape, faintly bifurcating there; fins more or less uniformly dusky, ventral lightest, anal darkest.

[1] Published by permission of the U.S. Commissioner of Fisheries.

Measurements of holotype. Caudal 24, ventral 25.5, longest pectoral rays 24.5, depth 20, least depth of caudal peduncle 11, head 28, postorbital part of head 16.5, head depth directly behind eyes 15.5, head width at same point 14.5, maxillary 11, snout 7, eye 7, and antedorsal distance 37.5 percent of standard length. Ventral 1.4 times in distance from its base to origin of anal.

Types. Holotype, Stanford University, No. 32963; Los Frailes, near Cape San Lucas, Lower California; V. E. Brock; March 2, 1938; female, 26 mm. Paratype, S. U., No. 32964; female, 25 mm., obtained with holotype.

Distinctive characters and relationship. This species is nearest structurally to *G. longipala* and *G. ginsburgi*, agreeing with both in having two scales on the caudal and in other essential characters. In the ventral length and the number of fin rays in the anal, *puncticulatum* agrees with *ginsburgi* and differs from *longipala* (compare with the accounts of the two older species in the paper cited above). It differs very strikingly from both in the color pattern. It lacks transverse bands and has a longitudinally banded pattern on the back. Outside the striking color difference, *puncticulatum* does not differ from *ginsburgi* in the structural characters investigated in my revision of the genus. However, it differs from both older species in some important details in the distribution of the lateral line organs. These structures in the American gobies will be taken up in a systematic way in a future paper.

Gobiosoma brocki, new species

Diagnosis. No scales on caudal. Teeth villiform, subequal, those in outer and inner rows scarcely larger than others. Tongue entire. Mental frenum not bilobed. Mouth inferior, lower jaw moderately shorter. Anterior dorsal spine filamentous, reaching base of second dorsal ray in female (male not available). D. 7 - 11, A. 10. Ventral falling considerably short of anus in female. No barbule, or enlarged, pimple-like papilla below anterior nostril.

Ground color of head and body light yellowish crossed by dark bands; bands on head very wide, wider than the interspaces, not as dark as those on body; three bands on head, under eye, behind eye, and over posterior part of opercle, on the side the third band extending partly over opercle and partly over base of pectoral, the middle band somewhat wider than other two; 9 nearly complete bands on body, the first a little in front of origin of first dorsal, the last at a considerable distance from base of caudal, at tip of posterior dorsal rays; a rudiment of a tenth band near dorsal profile, about midway between last nearly complete band and base of caudal; bands on body much narrower than interspaces, somewhat gradually decreasing in width and increasing in intensity of pigmentation from anterior part of body backward; first dorsal with a diffuse blotch near base between fifth and sixth spines, with a very fine, black margin; rest of fin and other fins very moderately and nearly uniformly dusky.

Measurements of holotype. Female, 26 mm. Caudal 23.5, ventral 22.5, longest pectoral rays 25, depth 18.5, least depth of caudal peduncle 11.5, head 24.5, postorbital part of head 14.5, head depth directly behind eye 14, head width at same point 14.5, maxillary 10.5, snout 6.5, eye 7, and antedorsal distance 37.5 in standard length. Ventral 1.7 times in distance from its base to origin of anal.

Holotype. Stanford University, No. 32970; Los Frailes, near Cape San Lucas, Lower California; V. E. Brock; March 2, 1938; the only specimen examined.

Distinctive characters and relationship. This is a strongly marked spe-

cies. It has the first spine prolonged like *G. longum*, but it has fewer fin rays. The subequal, villiform teeth and the conspicuous, clear-cut, dark bands are different than in any species of *Gobiosoma*.

Gobiosoma digueti Pellegrin, from the Gulf of California, is also described as having cross-bands and the first spine elongate. However, the maxillary in that species is evidently longer, described as reaching a vertical through the posterior margin of the eye, which is unlike any species of *Gobiosoma* examined by me. In *brocki* the end of the maxillary reaches to under the middle of the eye, approximately as in all its congeners included in my revision of the genus and in this paper.

This species is named after its collector, Mr. Vernon E. Brock.

LUZONELEOTRIS, A NEW GENUS OF ELEOTRID FISHES FROM LUZON

By Albert W. C. T. Herre

Luzoneleotris, new genus

First dorsal with 6 spines, tips filiform; soft dorsal and anal moderate, branched rays 10 or 12; ventral I,5, narrow, elongate, the third ray longest. Body scales ctenoid, becoming smaller and cycloid anterior to tip of pectoral. Cheeks, opercles, and nape to interorbital fully scaled; snout, lips, interorbital, and under side of head naked. Body slender, compressed, elongate, the rather small head depressed anteriorly. No spines, bony or serrated crests, or papilliform grooves or ridges on head. Lower jaw projecting, mandible tip even with upper profile, mouth strongly oblique. No mental barbels or tentacle. Upper teeth short, rather stout, in 2 rather widely spaced rows; lower jaw with an outer row of relatively large, curved teeth, and 2 inner rows of long, slender teeth inclined backward; teeth of outer row visible when mouth is closed; no canines; no teeth on vomer. Tongue truncate. Gill-opening very wide, reaching beneath middle of eye, membranes free from isthmus. Branchiostegals 5. Caudal rounded-acuminate. Lateral scales 48 - 50. Genotype *L. nasugbua*.

In my key to Philippine Eleotrid genera (Gobies of the Philippines and China Sea, Manila, 1927, p. 26) this new genus comes closest to *Eviota* and *Oxyeleotris*. It agrees with *Eviota* (and *Trimma*) in its small adult size, but differs widely in having five unfringed ventral rays instead of four, and in having the third and not the fifth ray longest. *Eviota* also has 22 - 28 scales, with head and body naked back as far as the first dorsal, while *Luzoneleotris* has scaled cheeks and opercles. *Oxyeleotris* differs in its very large size, scaly snout, more numerous scales, numerous grooves of sensory papillae on opercles and cheeks, and the ventrals, which are of ordinary shape, with the last ray longest. *Valenciennea*, *Orthostomus*, *Pteroculiops*, and their allies differ distinctly in the naked cheeks and opercles, in having canines, in the scales, and in various other ways. All characters considered, *Luzoneleotris* seems to be a dwarfed derivative of some form allied to *Pteroculiops*, or between *Pteroculiops* and *Orthostomus*.

Luzoneleotris nasugbua, new species

Dorsal VI-I, 12. Anal I, 10. Scales: lateral 48 - 50, transverse about 18, predorsal (to interorbital) 20. Body slender, elongate, deepest under first dorsal, sloping from dorsal origin in a straight line to tip of lower jaw. Depth 6 times; head 4.37 times; head, including lower jaw, 4 times; caudal (equal to pectoral) 4 times, in standard length. Maxillary extends beneath first third of eye, which is flush with dorsal profile, half again as long as snout, 4 times in head plus lower jaw. Snout 6 times, postorbital twice in same. Interorbital very narrow, scarcely one third eye. First dorsal low, with thread-like tips, 3 times in head including lower jaw, not reaching second dorsal when depressed. Second dorsal and anal of equal height, this twice in head plus lower jaw. Anal base much shorter than that of second dorsal. Last dorsal ray nearly reaches caudal base. Ventral 1.1 times in head plus lower jaw, 4.8 in standard length. Caudal peduncle twice as long as its least depth.

Color in alcohol very pale yellow, with 15 brown cross-bands over the back, first behind eyes, last on caudal base. A dusky brown band from tip of snout and lower jaw across opercles. A series of brown spots along middle of side at lower ends of dorsal cross-bands. A black ocellus and 4 faint cross-bands on caudal; one or two broad, brown, longitudinal bands on dorsals; anal specked with minute dots. Other fins clear.

Holotype. Stanford University Natural History Museum, No. 32974; a gravid female 24 mm. standard length; collected by the author in a tide pool at Nasugbu, Batangas Province, Luzon. Eggs relatively large. Only the type known.

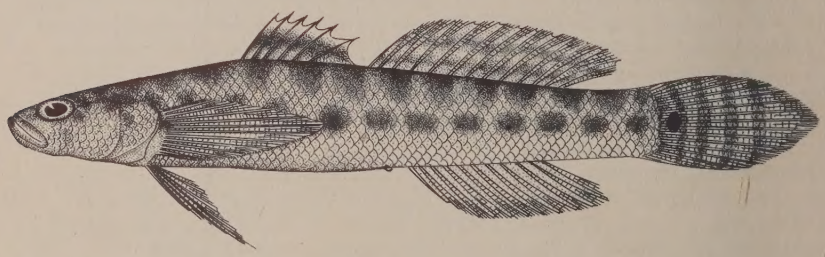

Fig. 1. *Luzoneleotris nasugbua*. Holotype. Standard length 24 mm.

Obtainable from the Director
Natural History Museum, Stanford University
Price, 25 cents